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Sequence Listing was accepted.

See attached Validation Report.

If you need help call the Patent Electronic Business Center at (866) 217-9197 (toll free).

Reviewer: Durreshwar Anjum

Timestamp: [year=2010; month=4; day=14; hr=14; min=23; sec=10; ms=231;]

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Application No: 10581014 Version No: 1.0

Input Set:

Output Set:

Started: 2010-04-05 18:02:15.979
Finished: 2010-04-05 18:02:39.014
Elapsed: 0 hr(s) 0 min(s) 23 sec(s) 35 ms
Total Warnings: 629
Total Errors: 34
No. of SeqIDs Defined: 711
Actual SeqID Count: 711

Error code	Error Description
W 213	Artificial or Unknown found in <213> in SEQ ID (5)
W 213	Artificial or Unknown found in <213> in SEQ ID (6)
E 355	Empty lines found between the amino acid numbering and the
E 321	No. of Bases conflict, this line has no nucleotides SEQID (9)
W 213	Artificial or Unknown found in <213> in SEQ ID (10)
W 213	Artificial or Unknown found in <213> in SEQ ID (11)
W 213	Artificial or Unknown found in <213> in SEQ ID (12)
W 213	Artificial or Unknown found in <213> in SEQ ID (13)
W 402	Undefined organism found in <213> in SEQ ID (15)
E 355	Empty lines found between the amino acid numbering and the
E 321	No. of Bases conflict, this line has no nucleotides SEQID (15)
W 402	Undefined organism found in <213> in SEQ ID (20)
W 213	Artificial or Unknown found in <213> in SEQ ID (21)
W 213	Artificial or Unknown found in <213> in SEQ ID (22)
W 213	Artificial or Unknown found in <213> in SEQ ID (23)
W 213	Artificial or Unknown found in <213> in SEQ ID (24)
W 213	Artificial or Unknown found in <213> in SEQ ID (25)
W 213	Artificial or Unknown found in <213> in SEQ ID (26)
W 213	Artificial or Unknown found in <213> in SEQ ID (27)
W 213	Artificial or Unknown found in <213> in SEQ ID (28)

Input Set:

Output Set:

Started: 2010-04-05 18:02:15.979
Finished: 2010-04-05 18:02:39.014
Elapsed: 0 hr(s) 0 min(s) 23 sec(s) 35 ms
Total Warnings: 629
Total Errors: 34
No. of SeqIDs Defined: 711
Actual SeqID Count: 711

Error code	Error Description
W 213	Artificial or Unknown found in <213> in SEQ ID (29)
W 213	Artificial or Unknown found in <213> in SEQ ID (30)
W 213	Artificial or Unknown found in <213> in SEQ ID (31)
W 213	Artificial or Unknown found in <213> in SEQ ID (32)
W 213	Artificial or Unknown found in <213> in SEQ ID (33)
W 213	Artificial or Unknown found in <213> in SEQ ID (34) This error has occurred more than 20 times, will not be displayed
W 402	Undefined organism found in <213> in SEQ ID (96)
W 402	Undefined organism found in <213> in SEQ ID (97)
E 355	Empty lines found between the amino acid numbering and the
E 321	No. of Bases conflict, this line has no nucleotides SEQID (99)
E 355	Empty lines found between the amino acid numbering and the
E 321	No. of Bases conflict, this line has no nucleotides SEQID (103)
W 402	Undefined organism found in <213> in SEQ ID (112)
W 402	Undefined organism found in <213> in SEQ ID (113)
W 402	Undefined organism found in <213> in SEQ ID (118)
W 402	Undefined organism found in <213> in SEQ ID (119)
W 402	Undefined organism found in <213> in SEQ ID (132)
E 355	Empty lines found between the amino acid numbering and the
E 321	No. of Bases conflict, this line has no nucleotides SEQID (646)
W 402	Undefined organism found in <213> in SEQ ID (648)
W 402	Undefined organism found in <213> in SEQ ID (653)
W 402	Undefined organism found in <213> in SEQ ID (654)

Input Set:

Output Set:

Started: 2010-04-05 18:02:15.979
Finished: 2010-04-05 18:02:39.014
Elapsed: 0 hr(s) 0 min(s) 23 sec(s) 35 ms
Total Warnings: 629
Total Errors: 34
No. of SeqIDs Defined: 711
Actual SeqID Count: 711

Error code	Error Description
E 355	Empty lines found between the amino acid numbering and the
E 321	No. of Bases conflict, this line has no nucleotides SEQID (654)
W 402	Undefined organism found in <213> in SEQ ID (656)
W 402	Undefined organism found in <213> in SEQ ID (663)
W 402	Undefined organism found in <213> in SEQ ID (666)
W 402	Undefined organism found in <213> in SEQ ID (671)
E 355	Empty lines found between the amino acid numbering and the
E 321	No. of Bases conflict, this line has no nucleotides SEQID (671)
W 402	Undefined organism found in <213> in SEQ ID (677)
W 402	Undefined organism found in <213> in SEQ ID (683)
W 402	Undefined organism found in <213> in SEQ ID (684)
E 355	Empty lines found between the amino acid numbering and the
E 321	No. of Bases conflict, this line has no nucleotides SEQID (684)
W 402	Undefined organism found in <213> in SEQ ID (688) This error has occurred more than 20 times, will not be displayed
E 341	'Xaa' position not defined SEQID (701) POS (168)
E 341	'Xaa' position not defined SEQID (701) POS (169)
E 341	'Xaa' position not defined SEQID (701) POS (170)
E 341	'Xaa' position not defined SEQID (701) POS (171)
E 341	'Xaa' position not defined SEQID (701) POS (172)
E 341	'Xaa' position not defined SEQID (701) POS (173)
E 341	'Xaa' position not defined SEQID (701) POS (174)
E 341	'Xaa' position not defined SEQID (701) POS (175)

Input Set:

Output Set:

Started: 2010-04-05 18:02:15.979
Finished: 2010-04-05 18:02:39.014
Elapsed: 0 hr(s) 0 min(s) 23 sec(s) 35 ms
Total Warnings: 629
Total Errors: 34
No. of SeqIDs Defined: 711
Actual SeqID Count: 711

Error code	Error Description	SEQID (701)	POS (176)
E 341	'Xaa' position not defined	SEQID (701)	POS (176)
E 341	'Xaa' position not defined	SEQID (701)	POS (177)
E 341	'Xaa' position not defined	SEQID (701)	POS (178)
E 341	'Xaa' position not defined	SEQID (701)	POS (179)
E 341	'Xaa' position not defined	SEQID (701)	POS (180)
E 341	'Xaa' position not defined	SEQID (701)	POS (181)
E 341	'Xaa' position not defined	SEQID (701)	POS (182)
E 341	'Xaa' position not defined	SEQID (701)	POS (183)
E 341	'Xaa' position not defined	SEQID (701)	POS (184)
E 341	'Xaa' position not defined	SEQID (701)	POS (185)

SEQUENCE LISTING

<110> Genencor International, Inc.
The Procter & Gamble Company
Amin, N.S.
Boston, M.G.
Bott, R.R.
Cervin, M.A.
Concar, E.M.
Gustwiller, M.E.
Jones, B.E.
Liebeton, K.
Miracle, G.S.
Oh, H.
Poulose, A.J.
Ramer, S.W.
Scheibel, J.J.
Weyler, W.
Whited, G.M.

<120> Perhydrolase

<130> GC821-2-PCT

<140> 10581014
<141> 2010-04-05

<150> PCT/US04/40438
<151> 2004-12-03

<150> US 60/526,764
<151> 2003-12-03

<160> 711

<170> PatentIn version 3.2

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<213> Mycobacterium smegmatis

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<213> Mycobacterium smegmatis

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20 25 30

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35 40 45

Ile Glu Glu Gly Leu Ser Ala Arg Thr Thr Asn Ile Asp Asp Pro Thr
50 55 60

Asp Pro Arg Leu Asn Gly Ala Ser Tyr Leu Pro Ser Cys Leu Ala Thr
65 70 75 80

His Leu Pro Leu Asp Leu Val Ile Ile Met Leu Gly Thr Asn Asp Thr
85 90 95

Lys Ala Tyr Phe Arg Arg Thr Pro Leu Asp Ile Ala Leu Gly Met Ser
100 105 110

Val Leu Val Thr Gln Val Leu Thr Ser Ala Gly Gly Val Gly Thr Thr
115 120 125

Tyr Pro Ala Pro Lys Val Leu Val Ser Pro Pro Pro Leu Ala Pro
130 135 140

Met Pro His Pro Trp Phe Gln Leu Ile Phe Glu Gly Gly Glu Gln Lys
145 150 155 160

Thr Thr Glu Leu Ala Arg Val Tyr Ser Ala Leu Ala Ser Phe Met Lys
165 170 175

Val Pro Phe Phe Asp Ala Gly Ser Val Ile Ser Thr Asp Gly Val Asp
180 185 190

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195 200 205

Ala Glu Gln Val Arg Ser Leu Leu
210 215

<210> 3
<211> 19
<212> PRT
<213> *Mycobacterium parafortuitum*

<400> 3

Lys Val Pro Phe Phe Asp Ala Gly Ser Val Ile Ser Thr Asp Gly Val
1 5 10 15

Asp Gly Ile

<210> 4
<211> 19
<212> PRT
<213> *Mycobacterium parafortuitum*

<400> 4

Gly Thr Arg Arg Ile Leu Ser Phe Gly Asp Ser Leu Thr Trp Gly Trp
1 5 10 15

Ile Pro Val

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<213> Artificial Sequence

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<223> primer

<400> 5

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<213> *Mycobacterium smegmatis*

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<211> 1779
<212> DNA
<213> *Mycobacterium smegmatis*

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 <211> 592
 <212> PRT
 <213> *Mycobacterium smegmatis*

 <400> 9

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 1 5 10 15

Ile Ser Val Val Gly Cys Ser Ser Ser Pro Asp Pro Ala Asp Arg Phe
 20 25 30

Ser Ala Phe Ala Glu Ala Leu Gly Arg Lys Asp Ala Ala Ala Ala Ala
 35 40 45

Ala Gln Thr Ser Asp Pro Ala Ala Ala Glu Ala Ala Ile Thr Ala Met
 50 55 60

Leu Ala Gly Met Gly Asp Ala Ala Asn Val Ser Val Ala Ala Glu Pro
 65 70 75 80

Glu Glu Gly Asp Asp Ala Gly Ala Thr Leu Lys Tyr Thr Trp Thr Trp
 85 90 95

Gly Glu Gly Arg Asp Phe Gly Tyr Asp Thr Thr Ala Thr Ala Ala Lys
 100 105 110

Ser Gly Asp Asp Trp Leu Ile Thr Trp Ser Pro Thr Val Leu His Arg
 115 120 125

Asp Leu Thr Pro Asp Leu Arg Phe Gln Tyr Ser Glu Asp Ser Glu Leu
 130 135 140

Gln Thr Pro Val Leu Asp Arg Thr Gly Gln Pro Leu Met Thr Trp Gln
 145 150 155 160

Thr Val Gly Val Ile Thr Val Glu Arg Ala His Pro Glu Ser Ala Ala
 165 170 175

Pro Leu Ala Ala Leu Leu Ala Pro Phe Asp Pro Thr Thr Thr Glu
 180 185 190

Ser Val Thr Ala Gln Leu Asn Ser Thr Thr Asp Asp Arg Val Thr Val
 195 200 205

Met Lys Leu Arg Glu Asp Asp Leu Gly Gln Val Arg Asp Gln Leu Ala
 210 215 220

Gln Ile Pro Gly Val Thr Val Arg Glu Gln Gly Glu Leu Leu Thr Ala
225 230 235 240

Asp Arg Gln Leu Ser Ser Pro Ala Ile Ser Gly Leu Asp Glu Leu Trp
245 250 255

His Asp Arg Ile Thr Ala Asn Ala Gly Trp Ser Val Tyr Leu Val Asp
260 265 270

Ala Asp Gly Ala Pro Ala Gln Gln Leu Thr Ser Thr Pro Pro Lys Asp
275 280 285

Thr Gly Pro Val Arg Thr Thr Leu Asp Leu Arg Met Gln Leu Leu Ala
290 295 300

Gln Gln Ala Val Ala Lys Glu Thr Arg Pro Ala Val Val Val Ala Ile
305 310 315 320

Ser Gly Ser Thr Gly Gly Ile Leu Ala Ala Ala Gln Asn Pro Ala Ala
325 330 335

Asp Pro Gln Gly Ala Ile Ala Phe Ser Gly Leu Tyr Pro Pro Gly Ser
340 345 350

Thr Phe Lys Thr Ile Thr Thr Ala Ala Ala Leu Asp Ala Gly Leu Ala
355 360 365

Thr Pro Asp Thr Pro Val Ala Cys Pro Gly Glu Leu Thr Ile Glu Asn
370 375 380

Arg Thr Ile Pro Asn Asp Asp Asn Phe Asp Leu Gly Thr Val Pro Leu
385 390 395 400

Ser Ser Ala Phe Ser His Ser Cys Asn Thr Ser Met Ala Ala Leu Ser
405 410 415

Asp Glu Leu Pro Pro Asn Ala Leu Thr Asp Met Ala Lys Asp Phe Gly
420 425 430

Ile Gly Val Asp Phe Met Val Pro Gly Leu Thr Thr Val Thr Gly Arg
435 440 445

Val Pro Asn Ala Asp Asn Ala Ala Gln Arg Val Glu Asn Gly Ile Gly
450 455 460

Gln Gly Thr Val Thr Val Ser Pro Phe Gly Leu Ala Val Ala Glu Ala
465 470 475 480

Ser Leu Ala His Gly Ser Thr Ile Leu Pro Thr Leu Val Asp Gly Glu
485 490 495

Lys Thr Thr Ala Asp Thr Pro Ser Val Pro Leu Pro Pro Asn Ile Thr
500 505 510

Asp Ala Leu Arg Ala Met Met Arg Gly Thr Val Thr Glu Gly Thr Ala
515 520 525

Thr Ala Leu Ser Asp Ile Pro Asp Leu Gly Gly Lys Thr Gly Thr Ala
530 535 540

Glu Phe Gly Asp Asn Thr His Ser His Gly Trp Phe Ala Gly Ile Ala
545 550 555 560

Gly Asp Ile Ala Phe Ala Thr Leu Val Val Gly Gly Asp Ser Ser Ala
565 570 575

Pro Ala Val Ala Ile Ser Gly Asp Phe Leu Arg Pro Ala Leu Ala Gly
580 585 590

<210> 10

<211> 592

<212> PRT

<213> Artificial Sequence

<220>

<223> penicillin binding protein

<400> 10

Met His Leu Arg Pro Ala Leu Thr Trp Leu Leu Val Val Gly Leu Phe
1 5 10 15

Ile Ser Val Val Gly Cys Ser Ser Ser Pro Asp Pro Ala Asp Arg Phe
20 25 30

Ser Ala Phe Ala Glu Ala Leu Gly Arg Lys Asp Ala Ala Ala Ala Ala
35 40 45

Ala Gln Thr Ser Asp Pro Ala Ala Ala Glu Ala Ala Ile Thr Ala Met
50 55 60

Leu Ala Gly Met Gly Asp Ala Ala Asn Val Ser Val Ala Ala Glu Pro
65 70 75 80

Glu Glu Gly Asp Asp Ala Gly Ala Thr Leu Lys Tyr Thr Trp Thr Trp
85 90 95

Gly Glu Gly Arg Asp Phe Gly Tyr Asp Thr Thr Ala Thr Ala Ala Lys
100 105 110

Ser Gly Asp Asp Trp Leu Ile Thr Trp Ser Pro Thr Val Leu His Arg
115 120 125

Asp Leu Thr Pro Asp Leu Arg Phe Gln Tyr Ser Glu Asp Ser Glu Leu
130 135 140

Gln Thr Pro Val Leu Asp Arg Thr Gly Gln Pro Leu Met Thr Trp Gln
145 150 155 160

Thr Val Gly Val Ile Thr Val Glu Arg Ala His Pro Glu Ser Ala Ala
165 170 175

Pro Leu Ala Ala Leu Leu Ala Pro Phe Asp Pro Thr Thr Thr Glu

180	185	190
Ser Val Thr Ala Gln Leu Asn Ser Thr Thr Asp Asp Arg Val Thr Val		
195	200	205
Met Lys Leu Arg Glu Asp Asp Leu Gly Gln Val Arg Asp Gln Leu Ala		
210	215	220
Gln Ile Pro Gly Val Thr Val Arg Glu Gln Gly Glu Leu Leu Thr Ala		
225	230	235
		240
Asp Arg Gln Leu Ser Ser Pro Ala Ile Ser Gly Leu Asp Glu Leu Trp		
245	250	255
His Asp Arg Ile Thr Ala Asn Ala Gly Trp Ser Val Tyr Leu Val Asp		
260	265	270
Ala Asp Gly Ala Pro Ala Gln Gln Leu Thr Ser Thr Pro Pro Lys Asp		
275	280	285
Thr Gly Pro Val Arg Thr Thr Leu Asp Leu Arg Met Gln Leu Leu Ala		
290	295	300
Gln Gln Ala Val Ala Lys Glu Thr Arg Pro Ala Val Val Val Ala Ile		
305	310	315
		320
Ser Gly Ser Thr Gly Gly Ile Leu Ala Ala Ala Gln Asn Pro Ala Ala		
325	330	335
Asp Pro Gln Gly Ala Ile Ala Phe Ser Gly Leu Tyr Pro Pro Gly Ser		
340	345	350
Thr Phe Lys Thr Ile Thr Thr Ala Ala Ala Leu Asp Ala Gly Leu Ala		
355	360	365
Thr Pro Asp Thr Pro Val Ala Cys Pro Gly Glu Leu Thr Ile Glu Asn		
370	375	380
Arg Thr Ile Pro Asn Asp Asp Asn Phe Asp Leu Gly Thr Val Pro Leu		
385	390	395
		400
Ser Ser Ala Phe Ser His Ser Cys Asn Thr Ser Met Ala Ala Leu Ser		
405	410	415
Asp Glu Leu Pro Pro Asn Ala Leu Thr Asp Met Ala Lys Asp Phe Gly		
420	425	430
Ile Gly Val Asp Phe Met Val Pro Gly Leu Thr Thr Val Thr Gly Arg		
435	440	445
Val Pro Asn Ala Asp Asn Ala Ala Gln Arg Val Glu Asn Gly Ile Gly		
450	455	460
Gln Gly Thr Val Thr Val Ser Pro Phe Gly Leu Ala Val Ala Glu Ala		
465	470	475
		480
Ser Leu Ala His Gly Ser Thr Ile Leu Pro Thr Leu Val Asp Gly Glu		

485	490	495
Lys Thr Thr Ala Asp Thr Pro Ser Val Pro Leu Pro Pro Asn Ile Thr		
500	505	510
Asp Ala Leu Arg Ala Met Met Arg Gly Thr Val Thr Glu Gly Thr Ala		
515	520	525
Thr Ala Leu Ser Asp Ile Pro Asp Leu Gly Gly Lys Thr Gly Thr Ala		
530	535	540
Glu Phe Gly Asp Asn Thr His Ser His Gly Trp Phe Ala Gly Ile Ala		
545	550	555
Gly Asp Ile Ala Phe Ala Thr Leu Val Val Gly Gly Asp Ser Ser Ala		
565	570	575
Pro Ala Val Ala Ile Ser Gly Asp Phe Leu Arg Pro Ala Leu Ala Gly		
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